

**AMENDMENTS TO THE CLAIMS**

With this Amendment After Final, claims 13-30 are amended, claims 1-5 and 31-37 are canceled, and new claims 38-49 are added. As of this Amendment After Final, the status of the claims (claims 13-30 and 38-49) is as follows:

1.-12. (Canceled)

13. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine adipocyte polypeptide leptin that hybridizes to a nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

14. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to at least about 20 bases of the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

15. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to at least about 50 bases of the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

16. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to substantially all of the bases of the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

17. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is at least about 20 bases.

18. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is at least about 50 bases.

19. (Currently Amended) The isolated single or double-stranded DNA molecule of [claim 1] claim 13 wherein the ~~allelic variant~~ isolated DNA molecule is capable of hybridizing to at least about 20 bases of the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

20. (Currently Amended) The isolated single or double-stranded DNA molecule of [claim 1] claim 13 wherein the ~~allelic variant~~ isolated DNA molecule is capable of hybridizing to at least about 50 bases of the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

21. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine adipocyte polypeptide leptin, the molecule consisting of the nucleotide sequence of SEQ ID NO:3 or ~~an allelic~~ a functional variant thereof, wherein the ~~allelic~~ functional variant is capable of hybridizing to substantially all of the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

22. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine adipocyte polypeptide leptin, the DNA molecule consisting of the nucleotide sequence of SEQ ID NO:3 or a functional derivative thereof, wherein the DNA molecule or the functional derivative thereof hybridizes to the nucleotide sequence of SEQ ID NO:3 when placed in contact with the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

23. (Currently Amended) The isolated DNA molecule of claim 22 wherein the isolated DNA molecule or the functional derivative thereof hybridizes to substantially all of the nucleotide sequence of SEQ ID NO:3 when placed in contact with the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

24. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine adipocyte polypeptide leptin, the DNA molecule consisting of ~~[[the]]~~ a nucleotide sequence of SEQ ID NO:3 or a variant thereof, wherein the DNA molecule or the variant thereof hybridizes to substantially all of the nucleotide sequence of SEQ ID NO:3 when placed in contact with the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

25. (Currently Amended) An isolated mRNA molecule which encodes a bovine adipocyte polypeptide leptin, the mRNA molecule encoded by ~~[[the]]~~ a nucleotide sequence of SEQ ID NO:3 or a variant of the mRNA molecule, wherein the mRNA molecule or the variant of the mRNA molecule hybridizes to the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

26. (Currently Amended) The isolated mRNA molecule of claim 25 wherein the mRNA molecule or the variant of the mRNA molecule hybridizes to substantially all of the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

27. (Currently Amended) An isolated mRNA molecule which encodes a bovine adipocyte polypeptide leptin, the mRNA molecule encoded by ~~[[the]]~~ a nucleotide sequence SEQ ID NO:3 or a functional derivative thereof, wherein the functional derivative of the isolated mRNA molecule hybridizes to substantially all of the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

28. (Currently Amended) An isolated mRNA molecule which encodes a bovine adipocyte polypeptide leptin, the mRNA molecule encoded by ~~[[the]]~~ a nucleotide sequence SEQ ID NO:3 or ~~an allelic~~ a functional variant thereof, wherein the ~~allelic~~ functional variant hybridizes to

substantially all of the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

29. (Currently Amended) An isolated mRNA molecule which encodes a bovine adipocyte polypeptide leptin, wherein the isolated mRNA molecule hybridizes to substantially all of an mRNA molecule encoded by a nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

30. (Currently Amended) An isolated mRNA molecule which encodes a bovine adipocyte polypeptide leptin, wherein the isolated mRNA molecule hybridizes to an mRNA molecule encoded by a nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

31. - 37. (Canceled)

38. (New) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule encodes for bovine leptin polypeptide.

39. (New) The isolated DNA molecule of claim 22 wherein the functional derivative encodes for bovine leptin polypeptide.

40. (New) The isolated DNA molecule of claim 24 wherein the variant encodes for bovine leptin polypeptide.

41. (New) The isolated mRNA molecule of claim 25 wherein the variant encodes for bovine leptin polypeptide.
42. (New) The isolated mRNA molecule of claim 27 wherein the functional derivative encodes for bovine leptin polypeptide.
43. (New) An isolated single or double-stranded DNA molecule which encodes a bovine adipocyte polypeptide leptin, the molecule consisting of a nucleotide sequence of SEQ ID NO:3 or a functional variant thereof, wherein the variant is capable of hybridizing to the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.
44. (New) The isolated DNA molecule of claim 43 wherein the variant encodes for bovine leptin polypeptide.
45. (New) An isolated mRNA molecule which encodes a bovine leptin polypeptide, the mRNA molecule encoded by a nucleotide sequence of SEQ ID NO:3 or a variant thereof, wherein the mRNA molecule or the variant of the mRNA molecule is capable of hybridizing to the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.
46. (New) The isolated mRNA molecule of claim 45 wherein the variant of the mRNA molecule encodes for bovine leptin polypeptide.
47. (New) An isolated mRNA molecule which encodes a bovine leptin polypeptide, the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 or a functional variant of the mRNA molecule, wherein the mRNA molecule or the functional variant of the mRNA molecule is capable of hybridizing to the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

48. (New) An isolated mRNA molecule which encodes a bovine leptin polypeptide leptin, the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 or a functional derivative of the mRNA molecule, wherein the mRNA molecule or the functional derivative of the mRNA molecule is capable of hybridizing to the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

49. (New) An isolated mRNA molecule which encodes a bovine leptin polypeptide, wherein the isolated mRNA molecule is capable of hybridizing to a nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.